CALIFORNIA ENERGY COMMISSION
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NOTIFICATION OF APPROVAL OF STANDARD U-FACTOR DATA FOR WOOD FRAMED FLOORS WITHOUT A CRAWL SPACE

As part of the adoption of the *2005 Building Energy Efficiency Standards*, the California Energy Commission adopted Joint Appendix IV, which contains standard U-factor, C-factor and Thermal Mass data for roof, wall and floor construction assemblies (see page IV-1 of the Joint Appendices at: http://www.energy.ca.gov/title24/2005standards/2004-10-06_400-03-001-JAF.PDF). The data in Joint Appendix IV must be used for all residential and nonresidential compliance approaches, including the mandatory requirements, prescriptive envelope component approach, prescriptive overall envelope approach and performance approach for nonresidential, high-rise residential and hotel/motel buildings, and the mandatory requirements, prescriptive and performance approaches for low-rise residential buildings.

If a construction assembly is not adequately represented in Joint Appendix IV, an applicant may request approval by the Energy Commission's Executive Director for different data for that construction assembly. The approval of the Executive Director is based on the technical justification submitted by the applicant. Approved standard data for the construction assembly will be published as an addendum to Joint Appendix IV for use in all compliance approaches.

This Notice of Approval of Standard U-factor data for Wood Framed Floors without a Crawl Space in Low-Rise Residential Buildings and for Type V Nonresidential Buildings authorizes the use of the data shown in the attached revised Table IV.21a, which officially replaces Table IV.21 in Joint Appendix IV.

Approved by:

Date 3·14·06

B. B. BLEVINS
Executive Director

Table IV.21a – Standard U-factors for Wood Framed Floors without a Crawl Space

Spacing	Nominal Framing Size	R-Value of Cavity Insul.		Rated R-value of Continuous Insulation							
				R-0	R-2	R-4	R-6	R-7	R-8	R-10	R-14
				A	B	C	D	E	F	G	H
16 in. OC	Any	None	1	0.238	0.160	0.121	0.097	0.088	0.081	0.070	0.054
	2 x 6	R-11	2	0.071	0.062	0.055	0.049	0.047	0.045	0.041	0.036
	(5.25 in)	R-13	3	0.064	0.056	0.050	0.046	0.044	0.042	0.039	0.034
	2 x 8	R-19	4	0.048	0.044	0.040	0.037	0.036	0.034	0.032	0.028
	(7.25 in.)	R-22	5	0.044	0.040	0.037	0.034	0.033	0.032	0.030	0.027
	2 x 10	R-25	6	0.039	0.036	0.033	0.031	0.030	0.029	0.027	0.025
	(9.25 in.)	R-30	7	0.034	0.032	0.030	0.028	0.027	0.026	0.025	0.022
	2 x 12	R-38	8	0.029	0.027	0.026	0.025	0.024	0.023	0.022	0.020
	(11.25 in.)										
24 in. OC	Any	None	9	0.199	0.142	0.110	0.090	0.083	0.076	0.066	0.052
	2 x 6	R-11	10	0.070	0.061	0.054	0.049	0.047	0.045	0.041	0.035
	(5.25 in.)	R-13	11	0.062	0.055	0.050	0.045	0.043	0.041	0.038	0.033
	2 x 8	R-19	12	0.047	0.043	0.039	0.036	0.035	0.034	0.032	0.028
	(7.25 in.)	R-22	13	0.042	0.039	0.036	0.033	0.032	0.031	0.029	0.026
	2 x 10	R-25	14	0.037	0.035	0.032	0.030	0.029	0.028	0.027	0.024
	(9.25 in.)	R-30	15	0.033	0.031	0.029	0.027	0.026	0.025	0.024	0.022
	2 x 12	R-38	16	0.027	0.025	0.024	0.023	0.022	0.022	0.021	0.019
	(11.25 in.)										

This table contains U-factors for wood framed floors that are exposed to ambient (outdoor) conditions. This construction is common for low-rise residential buildings and for Type IV nonresidential buildings.

If continuous insulation is not used, then choices are made from Column A. In this case, the insulation is installed only between the framing members. If credit is taken for continuous insulation, the insulation may be installed either above or below the framing members.

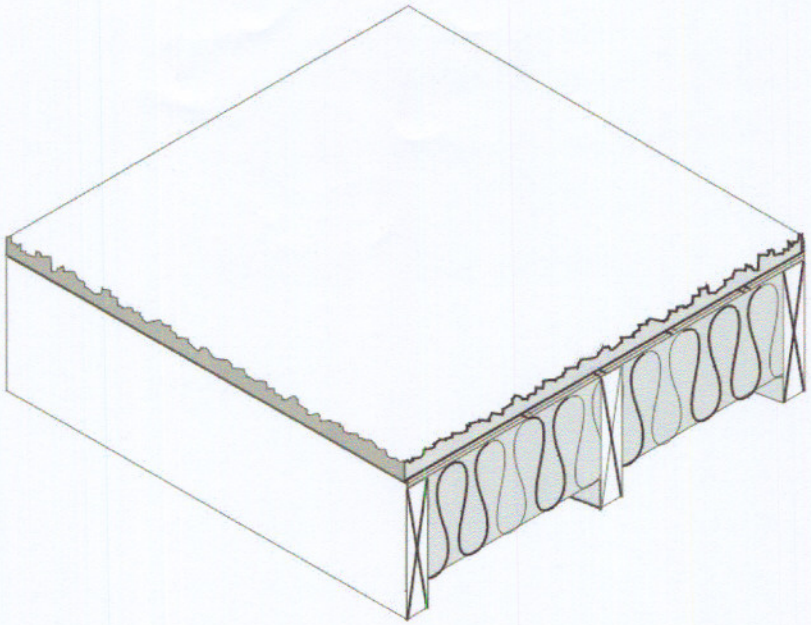

Figure IV.21a – Wood Framed Floor without a Crawl Space

When this table is used manually, the R-value of continuous insulation shall be equal to or greater than the R-value published in the continuous insulation columns. Continuous insulation of at least R-2 must exist in order to use data from columns B and beyond. No interpolation is permitted when data from the table is used manually. CEC approved software, however, may determine the U-factor for any amount of continuous insulation or for unusual construction assemblies using Equation IV-1 and Equation IV-2.

Assumptions. These data are calculated using the parallel path method documented in the 2001 ASHRAE Fundamentals. These calculations assume an exterior air film of R-0.17, a continuous insulation layer (if any), the cavity insulation / framing layer, 5/8 inch of plywood of R-0.78 (PW04), carpet and pad of R-2.08 (CP01), and an interior air film (heat flow down) of R-0.92. The framing factor is assumed to be 10% for 16 inch stud spacing and 7% for 24 inch spacing. Actual cavity depth is 3.5 inch for 2x4, 5.5 inch for 2x6, 7.25 inch for 2x8, 9.25 inch for 2x10, and 11.25 inch for 2x12.